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Combined relaxation methods for generalized monotone variational inequalities

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Abstract

The paper is devoted to the combined relaxation approach to constructing solution methods for variational inequalities. We describe the basic idea of this approach and implementable methods both for single-valued and for multi-valued problems. All the combined relaxation methods are convergent under very mild assumptions. This is the case if there exists a solution to the dual formulation of the variational inequality problem. In general, these methods attain a linear rate of convergence. Several classes of applications are also described. © 2006 Springer-Verlag Berlin Heidelberg.

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Keywords

Classes of applications, Combined relaxation methods, Convergence, Generalized monotone mappings, Variational inequalities